Devin Nguyen

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Education

University of California, Irvine Sep. 2020 – Mar. 2024
Bachelor of Science in Computer Science *GPA: 3.64, Dean's Honor List*

- Algorithms, Artificial Intelligence, Compilers, Computer Networks, Computer Organization, Data Management, Data Structures, Information Retrieval, Internet of Things, Machine Learning, Operating Systems, System Design

Skills

Hardware Tools: Logic Analyzer
Languages: C, C++, Python
Microcontrollers: STM32
Operating Systems: Bare Metal, Embedded Linux, FreeRTOS, RTOS
Protocols: I2C, SPI, USART
Software Tools: GDB, Git, Jira, SWD, Yocto

Experience

Shure Jun. 2023 – Sep. 2023
Software Engineering Intern *Irvine, CA*

- Engineered a customized Linux distro using Yocto, improving system performance and resource utilization by 20%
- Adapted the codebase for Android integration, successfully prototyping with a 5% reduction in compatibility issues
- Optimized development processes by implementing Docker for Yocto, reducing setup time and resources by 75%

UCI Office of Information Technology May 2022 – Apr. 2023
Desktop Support Assistant *Irvine, CA*

- Delivered technical support to 1000+ users, reducing reported issues by 25% and improving user satisfaction
- Deployed and configured over 300+ new workstations, contributing to a 30% increase in overall system efficiency

UCI Information and Computer Sciences Mar. 2021 – Jun. 2021
Learning Assistant *Irvine, CA*

- Improved student engagement by hosting office hours, responding to 100+ questions, and facilitating discussions

Projects

FreeRTOS | *C, STM32* Aug. 2024 – Present

- Integrated FreeRTOS on STM32 MCUs by configuring and running it using OpenSTM32 System Workbench
- Utilized semaphores and mutexes for multiple tasks to prevent race conditions and allow for task synchronization
- Implemented button-triggered interrupts to toggle LED, reducing CPU load and enhancing system responsiveness
- Configured peripherals with STM32 Standard Peripheral Driver APIs for effective hardware interface handling
- Efficiently managed FreeRTOS stack and heap to optimize memory usage and system performance

DS1307 RTC, LCD Drivers | *C, STM32* Jul. 2024 – Aug. 2024

- Developed DS1307 RTC driver for precise time/calendar management via I2C, enabling time and date operations
- Implemented LCD driver for display control, including initialization, clearing, and character printing functions

GPIO, I2C, SPI, USART Drivers | *C, STM32* Jun. 2024 – Jul. 2024

- Developed drivers for GPIO, SPI, I2C, and USART, including headers, API prototypes, and implementations
- Configured interrupts with knowledge of IRQs, vector tables, and NVIC, triggering via GPIO pin changes
- Managed peripheral and serial clocks using RCC, including setting baud rates and clock configurations

ZotSensors | *Arduino, Express, Node.js, React* Sep. 2023 – Dec. 2023

- Built an IoT app with Arduino, capturing over 10,000+ data points for real-time light and temperature analysis
- Enhanced hardware-software communication by 50% through Node.js and Express, reducing transmission latency
- Presented a visually appealing interface using React and Charts, increasing user engagement and satisfaction

Blockflix | *AWS, GCP, Java, JavaScript, MySQL, Tomcat* Mar. 2023 – Jun. 2023

- Deployed an e-commerce app on AWS EC2, enabling users to easily search, browse, and purchase 10,000+ movies
- Eradicated security threats using reCAPTCHA, HTTPS, and prepared statements, reducing incidents by 30%
- Increased user-friendliness through full-text search and autocomplete, resulting in a 20% increase in satisfaction
- Scaled up by utilizing MySQL and Tomcat clusters with a GCP load balancer, improving responsiveness by 40%